

Electronics Engineering Technology

Electronics Engineering Technology Suggested Course Sequence

The following is the suggested plan for when to take each course to complete the Associate in Applied Science degree, based on the program requirements of the 2023-2024 catalog. This is only a recommendation — you may take courses in another order upon consultation with your advisor. This plan is based on you starting with college-level math and English courses, starting your program in the fall, and attending full-time. You can also follow this sequence if you attend part-time. Speak with your academic advisor about the plan and any questions. This program might also offer diplomas or certificates; visit the catalog or contact the program for details. Visit the Academic Advising page for instructions on locating your assigned advisor: <https://www.cpsc.edu/academics/academic-advising>

Term I		Credits
ENG 111	Writing and Inquiry	3.0
MAT 171	Precalculus Algebra	4.0
ELC 131	Circuit Analysis I	4.0
ELN 133	Digital Electronics	4.0
EGR 110	Introduction to Engineering Technology	2.0
ACA 122	College Transfer Success	1.0
Credits		18
Term II		Credits
MAT 172	Precalculus Trigonometry	4.0
ELC 133	Circuit Analysis II	4.0
ELN 260	Prog Logic Controllers	4.0
CSC 134	C++ Programming	3.0
Credits		15
Term III		Credits
COM 110 or ENG 112	Introduction to Communication or Writing and Research in the Disciplines	3.0
Credits		3
Term IV		Credits
MAT 271	Calculus I	4.0
PHY 151	College Physics I	4.0
ELN 131	Analog Electronics I	4.0
ELN 232	Introduction to Microprocessors	4.0
You may have completed program certificate C40200-C5. Confirm eligibility with your academic advisor.		
Credits		16
Term V		Credits
Behavioral/Social Science		3.0
Humanities/Fine Arts		3.0
PHY 152	College Physics II	4.0
MAT 272 or PCI 170	Calculus II or DAQ and Control	4.0
Credits		14
Total Credits		66

ELN 131. Analog Electronics I. 4.0 Credits. Class-3.0. Clinical-0.0. Lab-3.0. Work-0.0

This course introduces the characteristics and applications of semiconductor devices and circuits. Emphasis is placed on analysis, selection, biasing, and applications. Upon completion, students should be able to construct, analyze, verify, and troubleshoot analog circuits using appropriate techniques and test equipment.

Prerequisites: Take ELC 131, minimum grade of C

ELN 132. Analog Electronics II. 4.0 Credits. Class-3.0. Clinical-0.0. Lab-3.0. Work-0.0

This course covers additional applications of analog electronic circuits with an emphasis on analog and mixed signal integrated circuits (IC). Topics include amplification, filtering, oscillation, voltage regulation, and other analog circuits. Upon completion, students should be able to construct, analyze, verify, and troubleshoot analog electronic circuits using appropriate techniques and test equipment.

ELN 133. Digital Electronics. 4.0 Credits. Class-3.0. Clinical-0.0. Lab-3.0. Work-0.0

This course covers combinational and sequential logic circuits. Topics include number systems, Boolean algebra, logic families, medium scale integration (MSI) and large scale integration (LSI) circuits, analog to digital (AD) and digital to analog (DA) conversion, and other related topics. Upon completion, students should be able to construct, analyze, verify, and troubleshoot digital circuits using appropriate techniques and test equipment.

ELN 150. Computer-Aided Drafting for Electronics. 2.0 Credits. Class-1.0. Clinical-0.0. Lab-3.0. Work-0.0

This course introduces computer-aided drafting (CAD) with an emphasis on applications in the electronics field. Topics include electronics industry standards (symbols, schematic diagrams, layouts); drawing electronic circuit diagrams; and specialized electronic drafting practices and components such as resistors, capacitors, and ICs. Upon completion, students should be able to prepare electronic drawings with CAD software.

ELN 232. Introduction to Microprocessors. 4.0 Credits. Class-3.0. Clinical-0.0. Lab-3.0. Work-0.0

This course introduces microprocessor architecture and microcomputer systems including memory and input/output interfacing. Topics include low-level language programming, bus architecture, I/O systems, memory systems, interrupts, and other related topics. Upon completion, students should be able to interpret, analyze, verify, and troubleshoot fundamental microprocessor circuits and programs using appropriate techniques and test equipment.

Prerequisites: Take ELN 133, minimum grade of C

ELN 233. Microprocessor Systems. 4.0 Credits. Class-3.0. Clinical-0.0. Lab-3.0. Work-0.0

This course covers the application and design of microprocessor control systems. Topics include control and interfacing of systems using AD/DA, serial/parallel I/O, communication protocols, and other related applications. Upon completion, students should be able to design, construct, program, verify, analyze, and troubleshoot fundamental microprocessor interface and control circuits using related equipment.

Prerequisites: Take ELN 232

ELN 237. Local Area Networks. 3.0 Credits. Class-2.0. Clinical-0.0.

Lab-3.0. Work-0.0

This course introduces the fundamentals of local area networks and their operation. Topics include the characteristics of network topologies, system hardware, system configuration, installation and operation of the LAN.

Upon completion, students should be able to install and maintain a local area network.

Prerequisites: Take ELN 133

ELN 260. Prog Logic Controllers. 4.0 Credits. Class-3.0. Clinical-0.0.

Lab-3.0. Work-0.0

This course provides a detailed study of PLC applications, with a focus on design of industrial controls using the PLC. Topics include PLC components, memory organization, math instructions, documentation, input/output devices, and applying PLCs in industrial control systems.

Upon completion, students should be able to select and program a PLC system to perform a wide variety of industrial control functions.

Prerequisites: Take ELC 213 or ELN 133 with a minimum grade C